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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,192	10/31/2003	James K. Middlebrook	31254-2	9975

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EXAMINER
TRIEU, THAI BA

ART UNIT	PAPER NUMBER
3748	

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DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,192	MIDDLEBROOK ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *31-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-19,21-23,25,27-30 and 36-40* is/are rejected.

7)☒ Claim(s) *4,20,24 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed on December 13, 2004. Applicant's cooperation in correcting the informalities in the drawing and specification is appreciated. Applicant's cooperation in amending the claims to overcome the claim objections relating to informalities as well as indefinite claim language is also appreciated. Claim 1, 3-4, 13, 19-21, 27, 36 were amended; claims 31-35 were withdrawn.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ***"first and second supercharger housing elements"*** (See Claim 3) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically,

- In claim 3, lines 2-4, the recitation of ***"the first and second supercharger housing elements***" is required to be incorporated with the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 19 and its dependent claims 20-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the

recitation of "re-engagement between the impeller and the pulley drive" is considered as an added new matter in the amended claim 19.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 3 recites the limitation ***"the first and second supercharger elements"*** in lines 2-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 8, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii et al. (Patent Number 6,604,359 B2).

Regarding claims 1-3, Ishii discloses:

a shaft (4, 7) having an axis of rotation (See Figure 3);

a gearcase comprising a primary gear housing (2); and

a removable gear housing section (1);

wherein the primary gear housing section and removable gear housing section meet at a location (Not Numbered) that is substantially parallel to the shaft axis of rotation (4, 7) (See Figures 2-3);

wherein the location is substantially coplanar with the axis of rotation of a drive-shaft (4) or an impeller shaft (See Figures 2-3);

wherein the location is selected from a group consisting of: a substantially flat plane formed between the first and second supercharger housing elements (See Figures 2-3), a substantially flat surface formed between the first and second supercharger housing elements (See Figures 2-3).

Regarding claims 8 and 15, Ishii discloses:

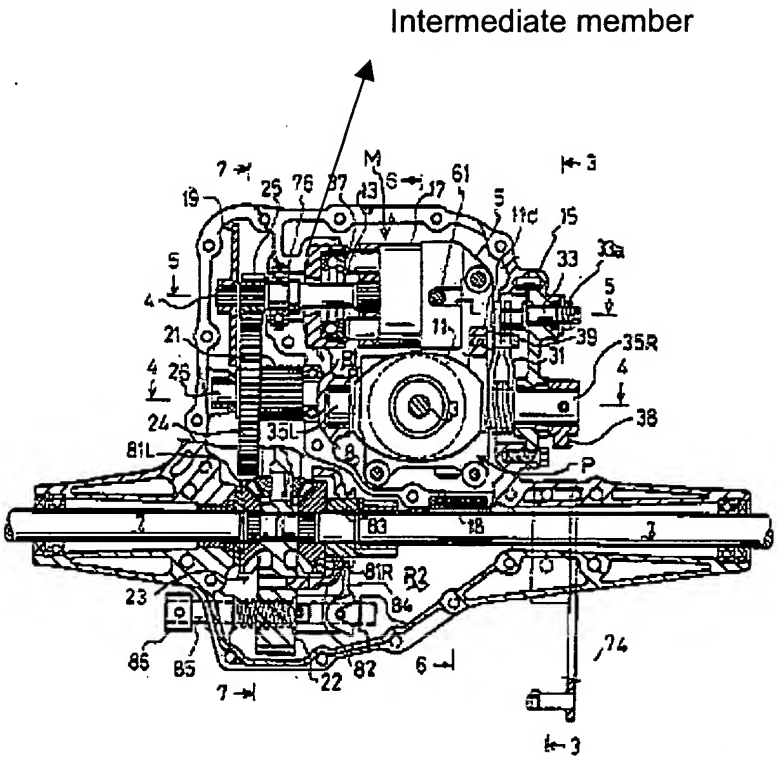
a rotatable shaft (4,7) (See Figures 2-3);

at least one bearing assembly (37) disposed around a portion of the rotatable shaft (4, 7) (See Figures 2-3);

a housing element (1,2) surrounding the bearing assembly (76, 37, and bearings support shaft 7); and

an intermediate member (Not Numbered) disposed between the bearing assembly (37) and the housing element (1, 2) (See Figure 2).

wherein the intermediate member (Not Numbered) is substantially cylindrical (See Figure 2).



Claims 19 and 21-22 are rejected under 35 U.S.C. 102(b) as best understood as being anticipated by Smith (Patent Number 5,168,972).

Smith discloses a supercharger (13)comprising:

an impeller (Not Shown);

a drive pulley coupled to the supercharger (61,62); and

a disengagement device (10) disposed between the impeller and the drive pulley (24); wherein the disengagement device permits disengagement and re-engagement between the impeller and the drive pulley (See Abstract, and Column 1, lines 5-12, and Column 2, lines 9-10);

wherein the disengagement device comprises a one-way clutch (10);

wherein the disengagement device is coupled to the drive pulley (See Figure 1).

Claims 19 and 21-23 are rejected under 35 U.S.C. 102(b) as best understood as being anticipated by Roberts (Patent Number 4,145,888).

Roberts discloses a supercharger (10, 14, 12) comprising:

an impeller (15,32);

a drive gear (19, 29, 34) coupled to the supercharger (10, 14, 12); and

a disengagement device (24, 28) disposed between the impeller and the drive gear; wherein the disengagement device permits disengagement and re-engagement between the impeller and the drive gear (See Figure 1);

wherein the disengagement device (24, 28) comprises a one-way clutch (24);

wherein the disengagement device (24, 28) is coupled to the drive gear (19, 29) (See Figure 1);

wherein the disengagement device is a sprag or overunning clutch (24) (See Figure 1, Column 3, lines 3-13).

Claims 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (Patent Number 6,449,950 B1).

Allen discloses a supercharger, comprising:

an impeller shaft (48);

an impeller (Not Numbered) directly mounted on to the impeller shaft (48);

at least one bearing assembly (60) positioned around a portion of the impeller shaft (48);

a spacer assembly (70) positioned between the impeller (Not Numbered) and the bearing assembly (60) (See Figure 1);

wherein the spacer assembly further comprises an impeller spacer positioned adjacent to a base of the impeller (See Figure 1);

wherein the spacer assembly (18) comprises a tubular spacer positioned around a portion of the impeller shaft (See Figure 1);

wherein the spacer assembly (70) is structured to couple the impeller (Not Numbered) to the bearing assembly (60) (See Figure 1).

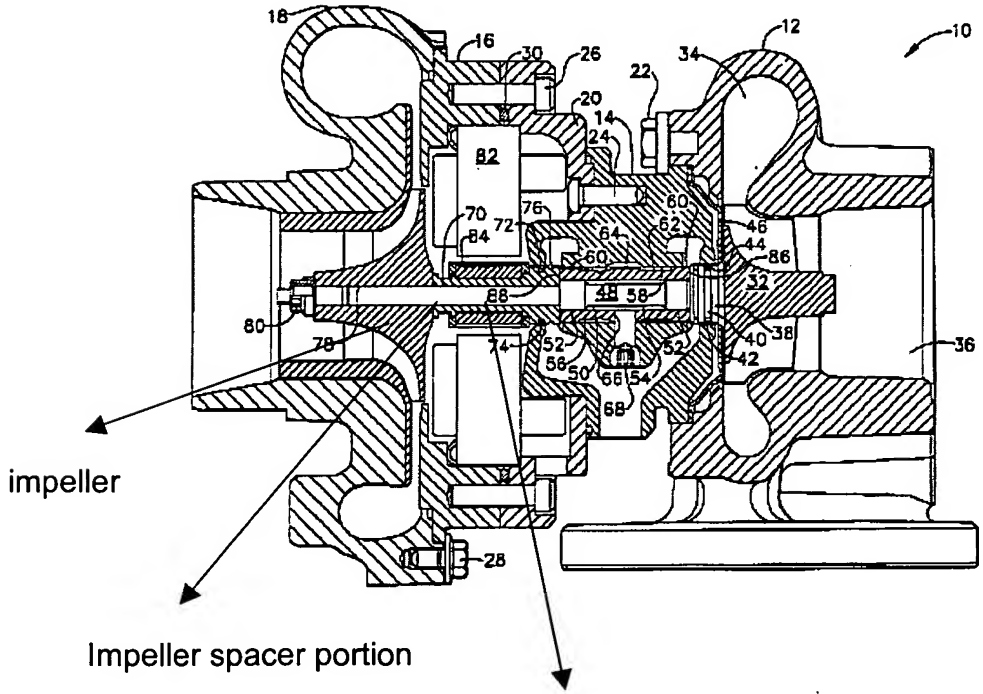


Figure 1

Claims 36-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Zinsmeyer (Patent Number 4,611,969).

Zinsmeyer discloses a supercharger, comprising:

a compressor housing (52) , the compressor housing comprising at least three separable components; wherein the at least three components are selected from a group consisting of: a main housing (52), a shroud (50) and a diffuser (30, 44) (See Figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Horler (Patent Number 4,541,784).

Ishii discloses the invention as recited above; however, Ishii fails to disclose a lubrication reservoir disposed within the supercharger wherein the lubrication reservoir is separate and detachable.

Horler teaches that it is conventional in the centrifugal oil exhaust turbocharger art, to utilize a lubrication reservoir (11) disposed within the supercharger wherein the lubrication reservoir is separate and detachable (See Figure).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a lubrication reservoir disposed within the supercharger wherein the lubrication reservoir is separate and detachable, as taught by Horler, since the use thereof would have made ease of serviceability of removing the reservoir and changing oil to lubricate and cool down the supercharger.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Horler (Patent Number 4,752,193).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the lubrication reservoir including a heat transfer element.

Horler teaches that it is conventional in the centrifugal oil exhaust turbocharger art, to utilize the lubrication reservoir including a heat transfer element (Read as oil cooler 16) (See Figure 1).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the lubrication reservoir including a heat transfer element, as taught by Horler, to improve the efficiency of the turbocharger, since the use thereof would have cooled down the oil which will be used to lubricate the bearings of the turbocharger.

Claim 9-11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Obara (Patent Number 6,464,400 B2).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the intermediate member comprising a ferrous-based material; the bearing assembly having a predetermined coefficient of thermal expansion; and the intermediate member having a coefficient of thermal expansion that is substantially similar to the coefficient of thermal expansion of the bearing assembly.

Obara teaches that it is conventional in the bearing art, to utilize the intermediate member (14, 15) comprising a ferrous-based material; the ferrous-based material is selected from a group consisting of: a pay iron, a G2-grade gray iron, a DURA-BAR, a free machining steel, a 12L14 steel, a 1018 steel, a ferrous based iron, a steel, and a steel alloy; the bearing assembly having a predetermined coefficient of thermal expansion; and the intermediate member having a coefficient of thermal expansion that is substantially similar to the coefficient of thermal expansion of the bearing assembly (See Column 4, lines 40-43).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the intermediate member comprising a ferrous-based material; the bearing assembly having a predetermined coefficient of thermal expansion; and the intermediate member having a coefficient of thermal expansion that is substantially similar to the coefficient of thermal expansion of the bearing assembly, as taught by Obara, to reduce vibration and noise in the Ishii device.

Note that the coefficient of thermal expansion of the bearing assembly and the intermediate member depend on the which kind of material that applicants desire to apply in the invention. As the material is to be chosen for the bearing assembly and the intermediate member, the coefficient of thermal expansion will be known (based on the properties of the material).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Troyer (Pub. Number 2003/0145656 A1).

Ishii discloses the invention as recited in the rejection of claim 8; however, Ishii fails to disclose the intermediate member having a coefficient of thermal expansion that may range between about 0.000004 and 0.000007 in/in-^{0}F.

Troyer teaches that it is conventional in the metal material art, to utilize the member having a coefficient of thermal expansion that may range between about 0.000004 and 0.000007 in/in-^{0}F (See Abstract, lines 6-9, and Paragraph [0004]).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the intermediate member has a coefficient of thermal expansion that may range between about 0.000004 and 0.000007 in/in-^{0}F, as taught by Troyer, to control the accuracy of the rotation movement, in the Ishii device.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Smith (Patent Number 5,168,972).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the intermediate member being selected from a group consisting of a sleeve and a sheath.

Smith teaches that it is conventional in the one-way drive train clutch assembly for the supercharged engine art, to utilize the intermediate member being selected from a group consisting of a sleeve (38, 40) and a sheath (See Figure 1, Column 3, lines 16-32, and Column 4, lines 37-47).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the intermediate member being a sleeve, as taught by Smith, to improve the performance efficiency of the Ishii device.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Middlebrook (Patent Number 6,293,263 B1).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the housing element being of aluminum.

Middlebrook teaches that it is conventional in the supercharger art, to utilize the housing element being of aluminum (See Column 2, lines 55-64).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the housing element being of aluminum, as taught by Middlebrook, to improve the performance and reliability over the wide temperature ranges.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Hall et al. (Patent Number 5,375,934).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the rotatable shaft, bearing assembly and the intermediate member comprising a replaceable cartridge assembly.

Hall teaches that it is conventional in the bearing art, to utilize the rotatable shaft (12), bearing assembly (28) and the intermediate member (20) comprising a replaceable cartridge assembly (See Figures 1-4, Column 1, lines 28-42, Column 2, lines 19-22, and Column 5, lines 4-25).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the rotatable shaft, bearing assembly and the intermediate member comprising a replaceable cartridge assembly, as taught by Hall, to reduce the cost and the time consuming in rebuilding and machining of worn shaft.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (Patent Number 6,604,359 B2), in view of Buhr (Patent Number 2,068,594).

Ishii discloses the invention as recited above; however, Ishii fails to disclose the bearing assembly comprising at least two substantially rigidly spring pre-loaded bearing sets.

Buhr teaches that it is conventional in the bearing art, to utilize at least two substantially rigidly spring pre-loaded bearing sets (54) (See Figure 1-2, Page 2, Column 1, lines 28-38)..

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized at least two substantially rigidly spring pre-loaded bearing sets, as taught by Buhr, to improve the performance efficiency of the bearing sets, since the use thereof would have given rigidity construction for all operating conditions of the bearings.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (Patent Number 5,168,972), or Roberts (patent Number 4,145,888), in view of Man et al. (Pub. Number 2002/0117860 A1).

Smith/Roberts discloses the invention as recited above; however, Smith/Roberts fails to disclose the disengagement device comprising a centrifugal clutch.

Man teaches that it is conventional in the power train art, to utilize a centrifugal clutch (1236) (See Figure 13, Paragraph [0132]).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a centrifugal clutch, as taught by Man, to secure the rotational speed of the Smith/Roberts turbocharger/supercharger.

Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinsmeyer (Patent Number 4,611,969).

The recitation of "the at least three components being manufactured separately and coupled together by force-fit or friction-fit" in claims 38 and 39,is considered as a product by process claim, which is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to overcome forward with evidence establishing a obvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zinsmeyer (Patent Number 4,611,969), in view of Design choice.

Zinsmeyer discloses the invention as recited above, and further discloses the at least three components comprising a curved diffuser passageway; however, Arnold fails to disclose a curvature ranging between about 20^0 to about 60^0, in the axial direction.

One having an ordinary skill in the turbocharger art would have found a curvature ranging between about 20^0 to about 60^0as a matter of design choice depending on the design of the turbocharger diffuser. Moreover, there is nothing in the record which establishes that the claimed curvature ranging between about 20^0 to about 60^0, presents a novel of unexpected result (See In re Kuhle, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Allowable Subject Matter

Claims 4, 20, 24, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on December 13, 2004 have been fully considered but they are not persuasive. Claims 1-30 and 36-40 are pending.

1. With regard to applicants' arguments set forth on **Page 15**, Smith (Patent Number 5,168,972) does not teach "the disengagement device permitting re-engagement between the impeller and drive pulley".

Examiner respectfully disagrees with applicants, since the limitation of ***"the disengagement device permitting re-engagement between the impeller and drive pulley"*** has not been disclosed in the original specification.

The following quotes from the disclosure of the instant application state that:

1. "Yet another feature of the present invention comprises a **disengagement device** located between the supercharger impeller and the engine, or motor that drives the supercharger. The **disengagement device allows selective disengagement of the impeller from the engine** (From Page 3)."

2. "Again referring to FIGS. 4A and 4B, according to another feature of the present invention, the supercharger 10 preferably includes **a disengagement device 70 for disengaging the impeller 22 from the engine 14**. In the illustrated embodiment, the driveshaft 12 is disengageable from the engine 14. As best seen in FIG. 4B, the disengagement device 70 is disposed between the driveshaft 12 and the primary drive pulley 72. According to some embodiments, **the disengagement device 70 comprises a one-way clutch, such as a sprag,**

overrunning clutch, or other suitable device. In a preferred embodiment, **the disengagement device 70 is preferably integrated into the primary drive pulley 72, which may also comprise part of belt and pulley system 16**, as described in FIG 1 (From Page 13)."

3. "... the sprag clutch 71 **disengages and allows** driveshaft 12, drive gear 30, impeller shaft 20, and impeller 22 to overrun and gently coast to a reduced rotational speed (From Page 14)".

Based on the above quotes, there is just only **disengagement** between the impeller and the drive pulley, which is disclosed in the specification and claimed in the previously presented claim 19; however, the recitation of "re-engagement", which has not been disclosed in the original specification, is treated as a new matter in the amended claim 19. Accordingly, the amended claim 19 and its dependent claims 21-22 are anticipated by the Smith (Patent Number 5,168,972).

With the same reason as stated above, the amended claim 19 and its dependent claims 21-23 are anticipated by Roberts (Patent Number 4,145,888).

Applicant's arguments with respect to the rejection(s)of claim(s) 19, 20 and 24 under 35 U.S.C. 102(b), as being anticipated by Okada (Patent Number 4,946,014) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

2. With regard to applicants' arguments set forth on **Page 18**, Chancey (Pub. Number US 2003/0059293) does not teaches a gearcase comprising a primary gear housing section and a removable gear housing section as **amended in claim 1**. Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth above.

3. With regard to applicants' arguments set forth on **Page 19**, Applicants respectfully set forth that Anderson (Pub. Number US 2003/0190242) and the subject application were owned by the same entity (or subject to an obligation of assignment to the same entity) at the time the invention was made. Specifically, both patent applications were owned by, or subject to an obligation of assignment to, Vortech Engineering, Inc. of Channel Islands, California. In view of Applicant's arguments the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth above.

4. With regard to applicants' arguments set forth on **Page 20**, Joco (Patent Number4,705,463) does not teaches the impeller being **directly mounted** on the impeller shaft and the spacer assembly disposed **circumferentially** between the impeller and the bearing assembly, as amended in claim 27. Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been

withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth above.

5. With regard to applicants' arguments set forth on **Page 21**, Arnold (Patent Number 6,062,028) does not teaches a compressor housing comprising at least three **separable** components, as amended in claim 36 . Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ebbing et al. (US Patent Number 5,173,020) disclose a collector silencer for a centrifugal compressor.

- Woollenweber (US Patent Number 3,961,867) discloses a rotatable assembly with a rotor abraded by seal ring.

- Daugherty (US Patent Number 5,316,393) discloses a duplex rolling element bearing mounting for ensuring preload control.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

However, the examiner' s new telephone number (751) 272-4867 will become effective after the expected changeover date of November 22, 2004.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
February 25, 2005

Thai-Ba Trieu
Patent Examiner
Art Unit 3748